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# Sync Ø1 Series

en	Powered Air Purifying Respirator Instruction Manual
de	Gebläsefiltersystem <b>Bedienungsanleitung</b>
fr	Appareil de protection respiratoire à épu- ration d'air motorisé Manuel d'utilisation
no	Viftefiltersystemet Instruksjonshåndbok
da	Powered luftrensende respirator Brugsvejledning
et	Motoriseeritud- ja suruõhuvarustusega <b>Kasutusjuhend</b>
fi	Puhallinsuojain-järjestelmä <b>Käyttöopas</b>
SV	Luftfiltersystem <b>Bruksanvisning</b>
es	Respirador purificador de aire motorizado Manual de instrucciones
n	Aangedreven filtertoestel Gebruiksaanwijzing

Вахранвани пречистващи въздушни респиратори Инструкции
Ε) Σύστημα φιλτραρίσματος αέρα Εγχειρίδιο χρήσης
Szűrt- és nyomólevegős légzésvédők Használati útmutató
<ul> <li>Sistema a filtro con ventola</li> <li>Manuale di istruzioni</li> </ul>
Aparat filtrowentylacyjny Instrukcja obsługi
Distema de filtragem com ventilador Manual de Instruções
<ul> <li>Aparate de respirat de purificare a aerului, cu acționare</li> </ul>
Manual de utilizare
Systémy s núteným obehom a prívodom vzduchu
Návod na používanie
Sistemi za tlačno filtracijo zraka in za dova- janje zraka Priročnik za uporabo
tr fanlı filtre sistemi

tr fanlı filtre sistemi Kullanım Kılavuzu



## Sync01 Series



3



## Sync01 Series



5



en	Instruction Manual
de	Bedienungsanleitung12
fr	Manuel d'utilisation
no	Instruksjonshåndbok22
da	Brugsvejledning27
et	Kasutusjuhend32
fi	Käyttöopas
sv	Bruksanvisning
es	Manual de instrucciones47
n	Gebruiksaanwijzing
	Инструкции
bg	инструкции
e	
e	Εγχειρίδιο χρήσης62
e) hu t	Eγχειρίδιο χρήσης
e) hu t	Eγχειρίδιο χρήσης
e) hu (it) (p)	Eγχειρίδιο χρήσης
e) hu (it) (p) (pt)	Eγχειρίδιο χρήσης
el hu ti pl pt	Eγχειρίδιο χρήσης

## en Instruction Manual

## 1. Application and Limitations of Use

#### Application

This is a product used together with filters to remove particles, gases, vapours, or the combinations of them.

#### Limitation of Use

<u>/</u> !	Misuse could be immediately dangerous to life or health to the wearer.
1.	Do not use in the following atmospheres or situations: • Oxygen-deficient atmospheres (oxygen concentration < 19.5%). • Oxygen only or oxygen-enriched air. • Unknown contaminants.
	Airborne contaminants which are unremovable by filters.
	<ul> <li>Airborne contaminants immediately dangerous to life or health.</li> <li>Substance or concentration of the airborne contaminants are unknown.</li> </ul>
	<ul> <li>Mixture of different types of airborne contaminants.</li> </ul>
	<ul> <li>Explosive atmospheres.</li> </ul>
2.	
	described in the "Application" section.
3.	Do not disassemble or modify the product.

- Do not use non-genuine parts.
- Do not use this product when power is turned off.
- Do not use this product when power is tarried on.
   Do not use this product if good airtightness cannot be achieved.
- Do not allow the product to become wet as this will cause failure
- Do not use compressed air to blow out accumulated contaminant on the filter.
- 9. Do not strongly hit or slap the filter.
- 10. Do not insert or drop items into the filter.
- 11. Do not puncture or damage the filter
- 12. Do not wash the filter with water.
- Do not use the product in atmosphere of ambient temperatures of more than +40 °C.
- 14. Do not use the filter which is beyond its shelf life\*. \* End of shelf life : Written on the label of filter. (Only unopened filters)
- 15. Do not use a filter with damage, deformation, rust, or other defects.

#### \_\_\_\_\_\_

- 1. Check the filter type before use.
- First-time users must receive instruction from a responsible person. If instruction from a responsible person is not available, thoroughly read this instruction manual before use.
- 3. Be sure to always conduct checks prior to use
- If any of the following conditions arise during operation, move to a safe location and take appropriate measures:
  - If the inhalation resistance rapidly increases and you have trouble breathing.
  - · If you sense that toxic substance has leaked into the product.
  - · If any of the parts are damaged.
  - If you feel ill
  - · If you sense an odor, irritant, or taste.
- Use the facepiece with the approved filter guard when performing work where sparks or spattering occurs. Sparks or spatter may fly into the filter inhalation valve and cause the filter to burn.
- In the case of an allergic reaction (i.e. rash, redness, itchiness etc.) while using of this product, please discontinue use and consult a dermatologist.
- A scratching sound may be heard during use. This is due to the construction of the motor and is not a fault.
- Contact the manufacturer or your distributor if you have any question or concerns before use.

## 2. Standards

EN 12942:1998+A2:2008, AS/NZS 1716:2012. Regulation (EU) 2016/425

#### Parts list

Refer to A. Parts with product code can be replaced by the user

No.			Name	Product code
	1	Facepiece	M size	41731 <sup>*1</sup>
		"FP-E01"	L size	41732 <sup>*1</sup>
a.	2	Face blank		-
Facepiece	3	Visor		-
8	4	Speech diaphragm		-
	5	Exhalation valve	50000	
	6	Exhalation valve cover		41474

Ν	lo.	Name	Product code
	7	Inner mask	41114
Fac	(8)	Inner mask valve	50122
Facepiece	9	Drain valve	50008
če	(10)	Head harness	41401 <sup>*2</sup>
	(1)	Buckle	-
	(12)	Fan unit "FU-E01"	41730 <sup>*3</sup>
	(13)	Breathing monitor	-
	(14)	Filter replacement indicator	-
71	(15)	Battery lock lever	-
Fan unit	(16)	Battery life indicators	-
lit	17)	Inhalation valve	03127
	(18)	Guarding sponge	03124
	(19)	Gasket	03123
	20	Gasket	41482
	(21)	Charger "CH-L2HAC"	41734 <sup>*4</sup>
0	2	AC adaptor	-
Charger	23	Battery "BA-L2H-E"	41735
er	24	Conversion Plug O	41192
	25	Conversion Plug BF	41193
		Particle filter "VP3"	40350
	26	Combined filter "VA1P3"	40250
		Combined filter "VABE1P3"	40251
	27	Filter guard	50583
Option	28	Unit cover "Knit cover 1R"	02800
tion	29	Fit checker "R18"	13001
	30	Cover glass Type CF	02659
	31	Airflow tester "FM-6"	04478
	32	Speech diaphragm cover	03058
	33	Storage Case	41194

\*1 ② - ① are attached.

- \*2 ① is attached.
- \*3 (3 2) are attached.
- \*4 22 is attached.

## Symbols

Refer to  $[\!\!B].$  Explanation of the informative symbols found on the product and packaging.

- . Refer to information supplied by the manufacturer.
- II. Temperature range of storage conditions. See "11. Storage".
- III. Maximum humidity of storage conditions. See "11. Storage".
- IV. End of shelf life.

## 5. Preparation prior to use

#### Charging the battery

Refer to A 2, 2 and 2.

- 1. Charging lamp lights, and then the battery starts to be charged.
- 2. After charging is complete, the charging lamp turns off.

## <u>/!</u>\

- Do not throw the battery into fire.
- This charger is used with battery "BA-L2H-E"
- Do not use this charger to charge other batteries.
- Stop charging the battery if the battery does not fully charge after charging the battery for the required amount of time.
- Do not expose the charger and AC adapter to water.
   Use the charger only with AC voltage between 100 240 V.
- Use the charger only with AC voltage between 100 Do not drop or place heavy objects on the charger.
- Do not cover or wrap the charger in a blanket or other material when
- charging the battery.
  Charge batteries only at temperatures between 0 +40 °C.
- Charge batteries only at temperatures between 0 +40 °C.
   Do not use this charger as a DC power source for other devices.
- Do not use this charger as a DC power source for other devices.
   Do not use the charger in atmosphere where there are significant
- Do not use the charger in atmosphere where there are significal fluctuations in power voltage.
- Do not short the charger.
- · Do not connect electronic transformers or similar devices

#### Attaching and removing parts

#### <Fan unit>

#### Attaching

- Refer to  $\boxed{C}$ . 1. Align the  $\triangle$  symbol on the facepiece with the  $\blacktriangle$  symbol on the fan unit,
- and then align the 3 clips on the facepiece with the A symbol of the far unit, on the fan unit.
- 2. While pushing the fan unit into the facepiece, rotate the fan unit until the

▲ symbol on the fan unit aligns with the ▲ symbol on the facepiece. The fan unit is locked into place when you hear a snap sound.

#### Removing Refer to D

- 1. Push the lock lever toward the fan unit to unlock the fan unit from the facepiece
- 2. While continuing to push the lock lever, rotate the fan unit in the direction indicated in the figure until the  $\blacktriangle$  symbol on the fan unit aligns with the $\Delta$ symbol on the faceniece
- 3. Take off the fan unit from the facepiece

#### <Batterv>

#### Attaching

Refer to E

1. Press the battery firmly with both hands.

#### Battery life indicator patterns

After the battery is first attached to the fan unit, the battery life indicators (LEDs) will light according to one of the patterns ① through ④ for approximately 30 seconds depending on the remaining voltage

Charge the battery if the pattern displayed is either 3 or 4.



Refer to F

1. Press the battery button (1).

#### <Filters> Attaching

Refer to G

1. Rotate the filter to clockwise

#### Removing

Refer to H

<Filter guard>

Use the product with the appropriate filter guard when welding. Attaching

#### Refer to I

1. Check the position of the filter ribs (1) and the filter guard clips (2). 2. Set the filter guard in a position so that the ribs and the clips are not overlapping, and then press the filter guard into the filter.

## Removing

Refer to J

#### <Unit cover> Attaching

Refer to K

When using in atmosphere with magnetic contaminants such as A iron powder, use the unit cover.

#### Removing

Refer to L

Slowly and carefully remove the unit cover to prevent contaminant accumulated on the surface of the unit cover from scattering.

#### <Speech diaphragm cover>

Attaching

Refer to M

#### Removing

Refer to N

Slowly and carefully remove the speech diaphragm cover to prevent contaminant accumulated on the surface of the speech <u>∕!</u>∖ diaphragm cover from scattering.

<Sealing> Refer to 0

## Inspection prior to use

- Check and ensure that there are no abnormalities before 1. using the product. 2 Check in a non contaminants area.
- Never use the product if the product does not function prop-3 erly after performing the appropriate actions.

#### Inspection Procedure

This product must be inspected before each use to ensure that it is in good use condition. Any damaged or defective parts must be replaced before use. Please inspect the following procedure.

- 1. Facepiece (Face blank, Visor, Speech Diaphragm, Valves, Valve seat, Valve cover, Head harness)
  - · Check for cracks, tears and dirt.
  - · Make sure Valves has a good elasticity.
- 2. Fan unit (Base, Battery lock lever, Battery life indicators, Valve, Gasket, Terminals)
- Make sure that battery life indicators attached.
- 3. Battery (body, terminals) · Check for dirt, cracks and deformation.
- 4 Filter
  - · Check for dirt, cracks, deformation.
  - Check for scratches on the contact surface with the gasket.
- 5 Product
  - · Make sure that air begins to flow after wearing the product and breathing. · Make sure that air stops flowing approximately 5 seconds after remov-
- ing the product. 6. Airflow test
- · Make sure the amount of airflow using the airflow tester. See "Airflow test" (page 9) for information on using the airflow tester.
- See "5. Preparation prior to use" (page 8) and "10. Care and Maintenance" (page 10) for information on replacing parts.

#### Airflow test

- \* Please use the full charged battery and Particle filter "VP3".
- Refer to P
- 1. Attach the adapter (1) so that it covers the filter.
- Adjust so that the airflow tester is perpendicular to the filter. 2. Fit face blank of this product to face and breathe to start fan.
- 3. The air will begin to flow.
- 4. Quickly remove the product from the face, and hold the airflow tester so that it is perpendicular to the ground. Hold the airflow tester up so that the pass line  $(\frac{1}{24})$  aligns with the height of your eyes, and check that the ball (2) is above the pass line. (Air will stop flowing after 5 seconds by the automatic OFF function.)
- 5. If the ball is not above the pass line, replace with a new filter and remeasure the airflow. Do not use the product until you have checked that the ball is above the pass line.
- \* If the ball is not above the pass line after replacing with a new filter, the product may have a malfunction. Please contact your distributor.

Do not block the face blank area, cover and the outlet of the airflow tester when measuring the airflow

#### Inspecting the Filter Replacement Indicator

#### Refer to Q

- 1. Attach the fan unit and filter to the facepiece and then don the facepiece. 2. Attach the fit checker to the filter.
- 3. Attach the battery to the fan unit and then breathe deeply so that the facepiece is suctioned onto your face
- 4. If the filter replacement indicator's LED flashes five times approximately 60 seconds after the battery has been attached, the filter replacement indicator is operating normally.

## Donning and Doffing

#### Donning

Any hair caught inside the facepiece will break a seal.

#### 8. Fit check

Refer to T

- 1. Attach the fit checker to the filter. (Parts list 2) · The fit checker installation will speed up the motor temporarily, but it is
- not an indication of malfunction. 2. Pinch the rubber tube of the fit checker.
- · Begin to breathe. Good airtightness is achieved if you feel the facepiece sticking to your face.

## Refer to R

Doffing Refer to S.

#### Sync01 Series

- 3. Please install the filter guard as needed.
- After installation of the filter guard, please ask someone to check that the filter guard is attached correctly.

Do not use the product if good airtightness cannot be



achieved

The fan may temporarily stop while checking good airtightness. This does not indicate a problem with performance. Perform this check in non contaminants area.

## Filter replacement

- Replace the filter in the following cases.
- The wearer detects odor, irritation or taste
- The LED flashes and turns off repeatedly. (Refer to U.)



## 10.Care and Maintenance

#### **Cleaning and Disinfection**

#### <Battery.filter and fan unit>

- 1. Remove the battery and recharge as needed in preparation for the next use
- 2. Wipe contaminants before removing the filter from the fan unit. Remove the filter and wipe off dirt and contaminants on the filter case.

	•	When using this filter in atmospheres containing contami- nant such as asbestos, arsenic, and chromium, dispose the filter after each use.
	•	Do not use compressed air to blow out accumulated dust.
٨	•	Do not strongly hit or slap the filter.
<u> </u>	•	Do not wash the filter with water.
		The timize to replace the filter verice depending on condi-

- The timing to replace the filter varies depending on conditions such as the respiration rate of users, the amount of dust in the environment, etc.
- Filter replacement should be performed in a safe location.
- 3. Remove the fan unit and wipe off dirt and contaminants. Be careful not to enter the inhalation port.
- 4. When using an alcohol-based disinfectant spray, allow parts to fully dry in the shade to ensure no residual alcohol.
  - 1. Use a dry, soft cloth to clean parts. When significantly dirty, wet a soft cloth with cleaner.
    - Do not get the fan unit wet. 2.
- /!\ 3 Do not use cleaners except for water, neutral detergent, alcohol-based disinfectant spray. 4. Do not open the breathing monitor

#### <Facepiece>

A

1.	Perform the cleaning with the filter, fan unit, battery re- moved.
2.	Do not use a washing machine or a dryer.

- · Remove inhalation valve, inhalation valve seat, exhalation valves and drain valve.
- Remove inner mask (with inner mask valve and inner mask valve seat)
- Removed components must be separately cleaned and disinfected.
- Clean the product using lukewarm water and mild cleaning agent 'EW 80 clean' (concentration from 0,5 to 1 %) If necessary (e.g. if heavily soiled) with a sponge or soft brush.
- · Thoroughly rinse the product in running water.
- Disinfect the product and components using disinfectant agent 'Incidin<sup>®</sup> Rapid'.
- Prepare disinfectant solution by diluting with water (max. +30 °C) with a concentration of 2% disinfectant agent. Dip the product completely into the disinfectant solution and provide for complete wetting of all parts of the product during the total immersion time.
- · Please observe the instruction manual for the disinfectant.
- · Thoroughly rinse the product in running water.
- Dry the product and components (temperature max, +50 °C) and reassemble respirator in reverse order

#### Manufacturer:

#### FW80clean

- EW 80 Systeme GmbH
- Untere Brinkstraße 80 44141 Dortmund
- Germany

#### Incidin<sup>®</sup> Rapid

- Regional Office:
  - Ecolab Deutschland GmbH Reisholzer Erftstraße 38-42
- 40589 Düsseldorf
- Worldwide Headquarters
- 370 Wabasha Street N
- St. Paul. MN 55102 1101

#### <Charger>

- 1. Wipe off dirt using a dry cloth, when nessesary wet cloth (water used to wet the cloth may also contain neutral detergent).
- 2. When necessary, use a cloth to wipe off dirt from the charger terminal and the battery contacts.
- 3. Do not use alcohol, paint thinner, organic solvents, or similar products.

#### Spare parts replacement

- <Inhalation valve>
- Refer to V
- 1 Remove the fan unit
- See "5. Preparation prior to use" (page 8) for information on how to remove the fan unit. 2. Grasp and remove the inhalation valve.
- 3 Align the two holes in the new inhalation valve to the two stems of the inhalation valve seat

<Exhalation valve>

- Refer to W
- 1. Open the exhalation valve cover, and grasp and remove the exhalation valve. 2. Align the hole in the new exhalation valve to the stem of the exhalation
- valve seat.
- 3 Close the exhalation valve cover

<Inner mask>

- Refer to X
- 1. Remove the inner mask from the facepiece.
- 2. Attach the new inner mask a, b and c to the facepiece A, B and C respectively
- <Inner mask valve>
- Refer to Y
- 1. Grasp and remove the inhalation valve.
- 2. Align the hole in the new inhalation valve to the stem of the inhalation valve seat

#### <Drain valve>

- Refer to Z.
- 1. Remove the fan unit. See "Attaching and removing parts" (page 8).
- 2. Pinch and remove the drain valve.
- 3. Align the stem in the new drain valve to the hole of the drain valve seat.
- 4. Pull the central axis of drain valve inside the facepiece, until snap sound.

#### <Head harness>

- Refer to a. 1. Attach the new head harness with the Sts label outside.

#### <Guarding sponge> Refer to b.

- 1. Remove the fan unit from the facepiece, and remove the battery. See "5. Preparation prior to use" (page 8).
- 2. Remove the guarding sponge from the fan unit.
- Note: Peel half of the film and stick the guarding sponge from the edge.

<Gasket (seal between the facepiece and fan unit)>

- Refer to c.
- 1. Remove the fan unit.
- See "5. Preparation prior to use" (page 8).
- 2. Remove the gasket. 3. Attach the new gasket
- <Gasket (seal between the filter and fan unit)> Refer to d.
- 1. Remove the fan unit from the facepiece, and then remove the filter.
- See "Attaching and removing parts" (page 8).
- 2. Use tweezers to remove the gasket from the groove.
- 3. Attach the new gasket into the groove evenly.

Circular shape shall be on the upper side of groove. <Gasket cross section>



en

<Exhalation valve cover> Refer to .

## 11. Storage

- 1. After any cleaning and maintenance is performed,
- · Facepiece, Fun unit, Particle filter : Store in a plastic bag.
- · Combined filter : Store in the sealed aluminum bag that has been packaged.
- · Store the Fun unit and battery separately.
- 2. Do not store the product in the following environments.
- · Environments exposed to organic solvents.
- · Environments exposed to significant amounts of dust.
- · Environments exposed to direct sunlight or other strong light for long periods of time.
- · Near heaters.
- 3. Storage temperature & humidity.

Product name	Temperature	Humidity	
FU-E01, FP-E01, VP3	+ 5 - + 40 °C	<65 %RH	
VA1P3, VABE1P3	0 - + 50 °C	<75 %RH	

#### 12. Disposal

Dispose of this product and its parts following the proper disposal regulations and ordinances.

### 13. Specifications

#### Performance and specifications

Item	Performance and specifications			
Model name	Sync01VP3 (M) Sync01VP3 (L)	Sync01VA1P3 (M) Sync01VA1P3 (L)		
Airflow system		Breath responsive	9	
Estimated operating time <sup>*1</sup>	≥ 9.0 hours	≥ 8.0 hours	≥ 7.5 hours	
Battery		BA-L2H-E		
Number of battery charge cycles	≥ 300			
Battery life indicators	Remaining battery voltage is displayed by LEDs			
Filter replacement indicator	or Replacement timing for clogged filters is dis		s is displayed by an	
Weight	(M): ≤ 755 g (L): ≤ 770g	(M): ≤ 885 g (L): ≤ 900g	(M): ≤ 925g (L): ≤ 940g	
Operating temperature range	+ 5 - + 40 °C			
Operating humidity range	< 80% RH			
Degrees of protection*2	IP65			

Time maintaining positive pressure under breathing conditions of 20 Cycles/min and 1.5L/stroke.
 \*2 Provided by enclosures IEC 60529:2001

<Filter>

Filter	Product name	Filter Type and Class <sup>*1</sup>	Colour code	Application
Particle filter	VP3	TM3 P R SL <sup>2</sup> PAPR-P3 <sup>*3</sup>	White	Solid and liquid particles
	VA1P3	TM3 A1P R SL <sup>2</sup>	Brown	Organic gases and vapours (boiling point > + 65°C)
			White	Solid and liquid particles
Combined	filter	TM3 ABE1P R SL*2	Brown	Organic gases and vapours (boiling point > + 65°C)
tilter			Grey	Inorganic gases and vapours
			Yellow	Sulphur dioxide and other acidic gases and vapours
			White	Solid and liquid particles

\*1 For Australia and New Zealand, the following limitations apply:(AS/ NZS 1716:2012 refers)

'Provides P3 protection only with full facepiece respirator' Provides P2 protection with half facepiece respirator

\*2 According to EN 12942:1998+A2:2008

\*3 According to AS/NZS 1716:2012

#### <Charger>

Input		AC 100 - 240 V	50 - 60 Hz
Output		DC 8.4 V	1.2 A
Applicable battery		BA-L2H-E	
Charge time*		Approx. 3.5 hours	
Operating temperature range		0 °C - +40 °C	
Storage temperature range		-20 °C - +60 °C	
Storage humidity range		45 - 85%	
	Charger body	Approx. 150 g	
Weight AC adapter (including power cord)		Approx. 120 g	

The charge time varies depending on the battery state.

#### **Combination table**

Complete product	Facepiece	Fan unit	Filter	Battery	Class
Sync01VP3 (M) <sup>*1</sup>	FP-E01 (M)	FU-E01	VP3	BA-L2H-E	TM3
Sync01VP3 (L)*1	FP-E01 (L)				
Sync01VA1P3 (M)*2	FP-E01 (M)		VA1P3		
Sync01VA1P3 (L)*2	FP-E01 (L)				
Sync01VABE1P3 (M)*2	FP-E01 (M)		VABE1P3		
Sync01VABE1P3 (L)*2	FP-E01 (L)				

\*1 EN 12942:1998+A2:2008

AS/NZS 1716:2012

\*2 EN12942:1998+A2:2008

## 14. Troubleshooting

Trouble		Cause	Corrective action	
Fan c	The battery life indicators are alternately lighting.	There is some object caught in the fan. (The safety device to prevent overcurrent due to a fan lock has been trig- gered.)	<ol> <li>Remove the filter and take off the object caught in fan.</li> <li>Reattach the battery.</li> </ol>	
ate	The battery life indicators do not light.	The battery is not correctly attached.	Reattach the battery.	
		The battery is discharged.	Recharge the battery.	
		The battery is damaged.	Replace with a new battery.	
		The contact between the terminals of the fan unit and the battery is fault.	Clean the terminals of the fan unit and the battery, and then reattach the battery.	
The fan does not stop.		Temporary malfunction of the sensors due to temperature, humidity, or some other cause.	Remove the battery to stop the fan. Place the fan unit in the specified condition for approximately 10 minutes.	
The battery does not charge.		The contact between the terminals of the charger and the battery is fault.	Clean the terminals of the charger and the battery.	
Contaminant enter into the facepiece.		The filter is not correctly attached.	Reattach the filter.	
		There is a gap between the facepiece and the face of the user.	Don the product again, and then check the fitting.	
There is no airflow.		The fan is not rotating.	See the trouble section regarding "Fan does not rotate.".	
		The filter inhalation port is blocked.	Take off the object.	
		The filter is clogged.	Replace to the new filter.	
Charger	The power lamp is flash- ing.	An abnormal input voltage has been detected.	Replace to the new AC adapter.	
	The charging lamp is flash- ing.	Charging has been inter- rupted due to the reason that battery becomes too hot.	Charging will resume after the temperature returns to the normal range.	
	The power lamp and the charging lamp are flashing.	An abnormality has been detected in the battery.	Replace to the new battery.	
	The power lamp and the charging lamp do not light.	The contact between the terminals of the charger and the battery is fault.	Clean the terminals of the charger and the battery.	

## Manufacturer SHIGEMATSU WORKS CO., LTD.

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Notified body

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SAI GLOBAL

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